SMELT WORKING GROUP
June 8, 2009

Recommendation for the week of June 8, 2009:

The SWG recommends that the 14-day average OMR shall be maintained at no more negative than -1500 cfs. If combined salvage at the South Delta export facilities reaches the June concern level of 759, the 14-day average OMR shall no more negative than -1,250 cfs.

The recommendation is based on a review of active risk factors:

1. Size of the population. Delta smelt densities are similar or less than what they were at this time last year. That cohort subsequently produced the lowest fall midwater trawl index ever recorded. The low abundance of delta smelt warrants conservative measures be taken to protect the population.

2. Distribution. Delta smelt seem to be broadly distributed in the delta with detections at some central Delta stations (809) in the most recent 20mm Surveys. Larvae and young juvenile delta smelt distributed in the south Delta have high risk of exposure to the export facilities. The group remains concerned that there are delta smelt that may not make it out of the South Delta if OMR flows are strongly negative. Although 20mm Survey 6 did not detect fish at its south delta stations, delta smelt are clearly present in the south delta as evidenced by salvage at both facilities. Delta smelt and striped bass larvae have nearly identical habitat requirements. Striped bass, more abundant than delta smelt and thus more likely to be captured in the 20mm survey gear, were observed last week at essentially all south and central Delta stations whereas delta smelt occurred at densities too low to be detected by trawling.

3. Salvage. Delta smelt detections in salvage have continued over the past week, with 99 delta smelt caught from June 1 through June 7. The group remains concerned that continued salvage at the facilities could reach the take concern level (759) or the incidental take level (1139) for June in the biological opinion.

4. Life stage risk. Most delta smelt observed to date are 20 mm or larger. This suggests that they are have attained sizes that enable them to be efficiently detected in sampling programs, and that post-larvae and young juveniles are still at risk of entrainment. These fish greater than 20 mm can contribute to the salvage take at the export facilities.

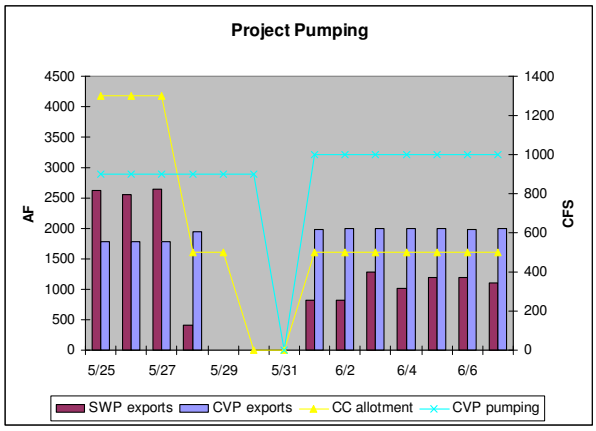
Environmental, Survey, Modeling, and Facilities Data Considered:

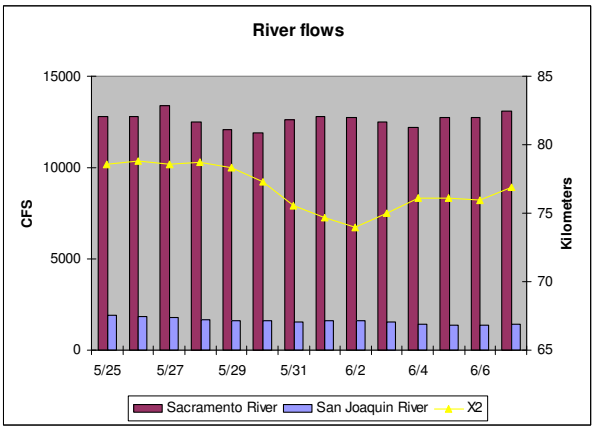
1) Current environmental data.

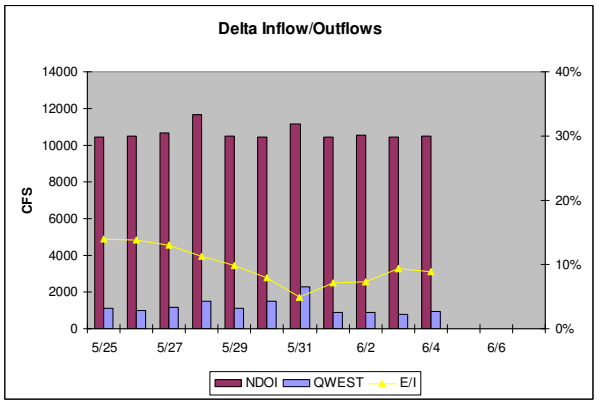
The provisional OMR estimate by the projects as of June 7 is -1918 cfs for 14 day average, -2531 cfs for 5 day average. As of June 7, Sacramento River inflow was 13071 cfs. X2 is at 76.9 km as of June 7. The E/I ratio was at 8.9% on June 4. The temperature at Clifton Court Forebay as of June 7 was 21.8ºC.

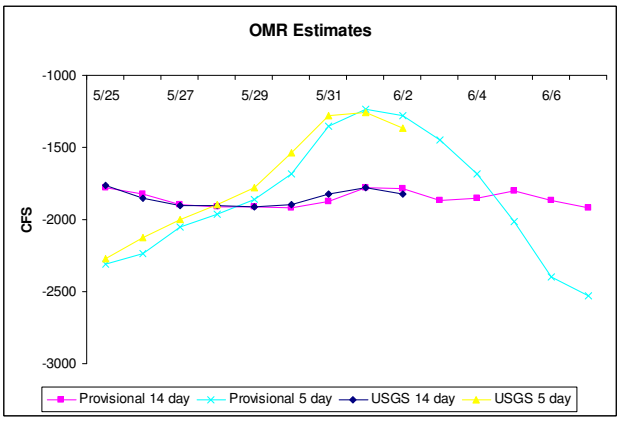
The Project pumping has remained steady for the previous week at 1500 cfs combined pumping.

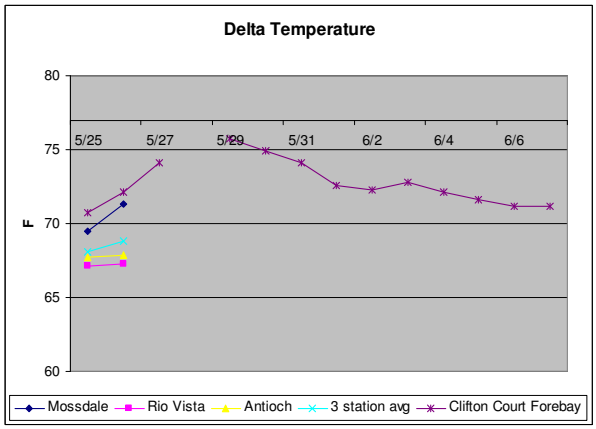
Data is depicted in the graphs below:

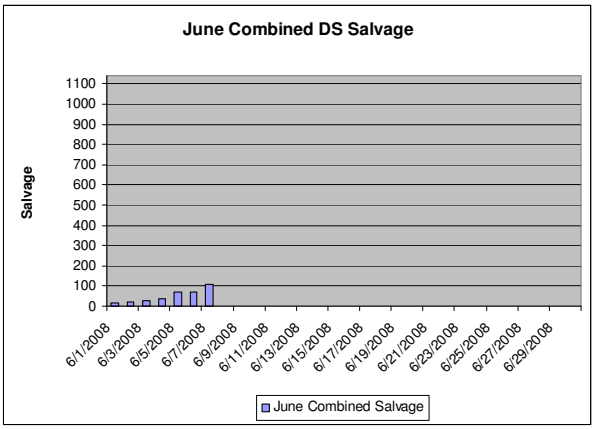












2) Delta fish monitoring:

20mm Survey 7 ran from June 1 through 4. Data are incomplete for all stations sampled. A total of 45 delta smelt larvae have been identified so far from eight stations, 22 collected from the core stations, 23 collected from two supplemental stations added to survey #7. The final Spring Kodiak Trawl (survey #5) was completed May 14. 10 delta smelt were collected from stations 719 and 606. Results from previous larval surveys, 20mm surveys and the SKT are available online at: http://www.delta.dfg.ca.gov/data/projects/?ProjectID=SLS

http://www.delta.dfg.ca.gov/data/projects/?ProjectID=20mm
http://www.delta.dfg.ca.gov/data/projects/?ProjectID=SKT.

3) Particle Tracking Modeling

The group received PTM runs that showed three different scenarios, OMR flows of -1,250 cfs (Scenario A), -1,600 cfs (Scenario B), -2,100 cfs (Scenario C), and -2,600 cfs (Scenario D).

4) Salvage

Adult delta smelt have not been salvaged at either facility since March 11. Delta smelt larvae or post-larvae were first observed at the CVP on April 10 and April 20 at the SWP. Collection of larval delta smelt (< 20 mm FL) occurred on May 4, 6, 15, 16, 21, 23, and 28 at the SWP and May 5, 6, 7, 8, 11, 13, 14, 17, 18, 19, 21, 22, 26, and 30, and June 1at the CVP. Juvenile (> 20 mm FL) delta smelt have been salvaged consistently since June 1 at the SWP. During the same period daily salvage of delta smelt occurred sporadically at the CVP. A total of 522 juvenile delta smelt were salvaged (combined facilities) as of June 7. Combined salvage dropped off earlier in the week, but recently increased, with 5 on June 2, 6 on June 3, 10 on June 4, 32 on June 5, 2 on June 6, and 30 on June 7.

WEEKLY ADVICE FOR THE CALIFORNIA DEPARTMENT OF FISH AND GAME FOR LONGFIN SMELT

Advice for week of June 8:

The Smelt Working Group provides no new advice.

Basis for advice:

Our concern level for **longfin smelt** is based on:

(1) longfin smelt juvenile and adult abundance remained low last fall;
(2) no longfin smelt larvae or juveniles were collected in the central or south Delta during the June 1-4 20mm Survey and hatching is assumed to be over for the year;
(3) no longfin smelt larvae or juveniles were salvaged by either facility May 5-13, and only five juveniles have been salvaged since;
(4) Delta water temperatures have surpassed 18ºC, which is believed to be approaching the threshold to stimulate emigration;
(5) longfin smelt juveniles remaining in the Delta are located in the Sherman Lake/confluence area with a single fish in Cache Slough, and not vulnerable to the central Delta entrainment until OMR levels surpass -3500 cfs.

The Smelt Working Group longfin smelt advice is based on the following information:

1. Water temperatures. Water temperatures are currently above the range believed suitable for longfin smelt spawning and incubation at about 16ºC. Emigration is believed to trigger when Delta water temperatures increase above18ºC, which is happening in the central and south Delta, and in the Cache Slough area.

2. Recent salvage. Only five longfin smelt caught in salvage recently: single fish on May 14 and May 27 and three on June 3. High Clifton Court water temperatures (23.4ºC) in late May made it unlikely that any longfin smelt remained in the forebay, but three were subsequently salvaged.

3. Adult distribution. No new adult information

4. Larva and juvenile distribution. The June 1-4 20mm Survey did not detect longfin smelt larvae or juveniles in the central or south Delta; only a single tow at each station has been processed to date. During the May 18-22 survey, larvae were located in the confluence area from station 703 and 801 and locations farther west, so none are expected from the central or south Delta.

5. Particle tracking results. PTM runs were made (see above) but not relevant to longfin smelt.